

What is claimed is:

1. A method for performing gamma correction in an image forming device, comprising:
 - first scanning an image pattern in a first direction;
 - second scanning the image pattern in a second direction different from the first direction;
 - calculating a first gamma correction pattern based on the first scan of the image pattern;
 - calculating a second gamma correction pattern based on the second scan of the image pattern; and
 - adjusting a scanning process in the image forming device based on the calculated first and second gamma correction patterns for the image pattern.
2. The method of claim 1, wherein the first scan is a color scan and the second scan is a monochrome scan.
3. The method of claim 1, wherein the first direction is a forward direction and the second direction is a backward direction with respect to the image pattern.
4. The method of claim 3, wherein both first scanning and second scanning are performed in a single periodic pass over the image pattern, the single periodic pass including scanning the image pattern in the forward direction covering a leading end to a trailing end of the image pattern, and scanning the image pattern in the backward direction covering the trailing end to the leading end of the image pattern.
5. The method of claim 1, further comprising printing the image pattern using the image forming device.
6. The method of claim 1, further comprising switching a charge couple device (CCD) output from a color output to a monochrome output after the step of first scanning and before the step of second scanning.

7. The method of claim 1, wherein at least one of the step of calculating a first gamma correction pattern and the step of calculating a second gamma correction pattern comprises:
- determining an average actual brightness across the scan;
 - comparing the determined average actual brightness to a predetermined linear curve; and
 - generating gamma correction values in order to achieve a linear curve from the determined average actual brightness across the scan.
8. The method of claim 1, wherein the step of calculating a first gamma correction pattern comprises calculating discrete color gamma correction patterns for at least red, green, and blue colors.
9. The method of claim 1, wherein the step of calculating a first gamma correction pattern comprises calculating discrete color gamma correction patterns for at least a photograph image pattern and a text image pattern.
10. The method of claim 1, wherein the step of calculating a second gamma correction pattern comprises calculating discrete monochrome gamma correction patterns for at least a photograph image pattern and a text image pattern.
11. The method of claim 1, further comprising:
- obtaining a corrected image pattern using the adjusted scanning process;
 - color scanning the corrected image pattern in the first direction;
 - monochrome scanning the corrected image pattern in the second direction;
 - calculating a third gamma correction pattern based on the color scan of the corrected image pattern;
 - calculating a fourth gamma correction pattern based on the monochrome scan of the corrected image pattern; and
 - adjusting the scanning process on the image forming device based on the calculated third and fourth gamma correction patterns for the corrected image pattern.

12. The method of claim 1, wherein the step of first scanning an image pattern comprises color scanning the image pattern with a charge couple device (CCD) output set at a full color output.

13. The method of claim 1, wherein the step of second scanning the image pattern comprises monochrome scanning the image pattern with a charge couple device (CCD) output set at a black and white (B/W) output.

14. An image forming device, comprising:
a scanner configured to scan an image pattern; and
a processor configured to:
color scan the image pattern in a first direction;
monochrome scan the image pattern in a second direction different from the first direction;
calculate a color gamma correction pattern based on the color scan of the image pattern;
calculate a monochrome gamma correction pattern based on the monochrome scan of the image pattern; and
adjust the scanner based on the calculated color and monochrome gamma correction patterns for the image pattern.

15. The image forming device of claim 14, wherein the scanner includes a four channel charge couple device (CCD).

16. The image forming device of claim 14, further comprising an image formation unit configured to form a corrected image pattern using the scanner as adjusted by the processor.

17. The image forming device of claim 16, wherein the processor is further programmed to:

color scan the corrected image pattern in the first direction;
monochrome scan the corrected image pattern in the second direction;

calculate a second color gamma correction pattern based on the color scan of the corrected image pattern;
calculate a second monochrome gamma correction pattern based on the monochrome scan of the corrected image pattern; and
adjust the scanner based on the calculated second color and monochrome gamma correction patterns for the corrected image pattern

18. The image forming device of claim 14, wherein the processor is configured to perform both the color scanning and the monochrome scanning in a single periodic pass over the image pattern, the single periodic pass including scanning the image pattern in the forward direction covering a leading end to a trailing end of the image pattern, and scanning the image pattern in the backward direction covering the trailing end to the leading end of the image pattern.

19. An image forming device, comprising:

means for color scanning an image pattern in a first direction;
means for monochrome scanning the image pattern in a second direction different from the first direction;
means for calculating a color gamma correction pattern based on the color scan of the image pattern;
means for calculating a monochrome gamma correction pattern based on the monochrome scan of the image pattern; and
means for adjusting a scanning process in the image forming device based on the calculated color and monochrome gamma correction patterns for the image pattern.

20. The image forming device of claim 19, wherein the means for color scanning and the means for monochrome scanning perform the scanning in a single periodic pass over the image pattern, the single periodic pass including scanning the image pattern in a forward direction covering a leading end to a trailing end of the image pattern, and scanning the image pattern in a backward direction covering the trailing end to the leading end of the image pattern.